

## Energy Situation Analysis Report

**Last Updated: March 21, 2003**

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### Latest World Oil Market Developments

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\*The near-month West Texas Intermediate (WTI) futures contract closed at \$28.61 per barrel on Thursday on the NYMEX, down \$1.27 per barrel from Wednesday's closing price. Thursday marked the expiry day for April front-month oil trading on the NYMEX, with May trading beginning today (3/21). On Wednesday, WTI had dipped below \$30 per barrel for the first time since December 13, 2002, as data released by the Energy Information Administration (EIA) and the American Petroleum Institute (API) indicated builds in crude stocks. [more...](#)

### Production/Export/Infrastructure Developments

**IRAQ:** As of Thursday morning, Iraqi oil exports effectively were halted, with the last ship having loaded oil from storage tanks at Turkey's port of Ceyhan. With the departure of UN staff from Iraq, the UN "oil-for-food" program is effectively on hold. Also, no oil is leaving Iraq's Persian Gulf port of Mina al-Bakr. There have been reports regarding possible oil fires at a small number of oil wells near Basra in southern Iraq. Iraqi Oil Minister Rasheed has denied these reports. In statements made on Thursday afternoon, Defense Secretary Donald Rumsfeld said that he has seen indications that the Iraqi regime may have set fires to oil wells in the South. The impact on production will be minimal because the production center associated with the reported wells on fire is the smallest in southern Iraq.

**PERSIAN GULF COUNTRIES:** Kuwait reportedly has shut-in 25,000-100,000 barrels per day of production at its northern Ratqa and Abdali oilfields, but also has claimed to have compensated by increasing output from other fields, reportedly resulting in the country producing at full capacity. Normal oil operations were reported Friday morning in Kuwait, despite Iraqi missile attacks against the country. Shell reportedly has halted production at Iran's 60,000-barrel-per-day Soroosh field in the northern Gulf due to safety fears. No other problems in the Persian Gulf reported at the moment, with tankers reported to be loading normally, although insurers are evaluating premiums for ships and cargoes on a case-by-case basis.

**Non-GULF SUPPLY:** Venezuelan production apparently has risen again, to at least 2.4 million barrels per day according to striking oil workers. The Venezuelan government claims production of 3.0 million barrels per day, about what the country was producing before unrest began in early December 2002. Meanwhile, Chevron Nigeria Limited declared "force majeure" on 140,000 barrels per day of its 450,000 barrels-per-day total production from Nigeria. On Tuesday (3/18) and Wednesday (3/19), Shell -- the largest producer in Nigeria -- announced closures of oil flow stations owing to recent violence near the company's facilities, as well as plans to withdraw all staff from North of the Niger Delta. This likely would shut-in about 126,000 barrels per day of its 800,000-barrels-per-day total oil output from Nigeria. Combined, the Shell and Chevron oil supply disruptions would total around 266,000 barrels per day, out of around 1.25 million barrels per day total output from the two companies in Nigeria.

### World Oil Supply Disruption Summary

\*For the time being, EIA is assuming that the flow of legal Iraqi oil has halted.

\*Combined with other lost oil production from Iran's Soroosh field, the gross Middle Eastern oil supply disruption is estimated at 1.8 million barrels per day (MMBD). EIA estimates that current OPEC production (without any Iraqi production) is still roughly the same as total OPEC production was last November before the domestic unrest and oil supply disruption in Venezuela. [more...](#)

### Latest U.S. Petroleum Information

\*U.S. commercial crude oil inventories (excluding those in the Strategic Petroleum Reserve) increased by 0.4 million barrels, and are barely above the lower operational inventory level (LOI). Despite an increase in crude oil refinery inputs, inventories for both major petroleum products fell last week.

\*The U.S. average retail price for regular gasoline rose last week for the thirteenth time in fourteen weeks, increasing by 1.6 cents per gallon as of March 17 to reach 172.8 cents per gallon, which is 44.0 cents per gallon higher than a year ago. [more...](#)

### Special Topic: Oil Market Status Prior to Iraqi Disruption

Even before Iraqi oil production and exports were disrupted, petroleum prices were high. So, how did we get to this point, and what will prices do now? [more...](#)

### Past Disruptions and Supply Security

For background information concerning previous oil disruptions, vulnerability, infrastructure, and more, please see:

EIA's [Energy Supply Security](#) page

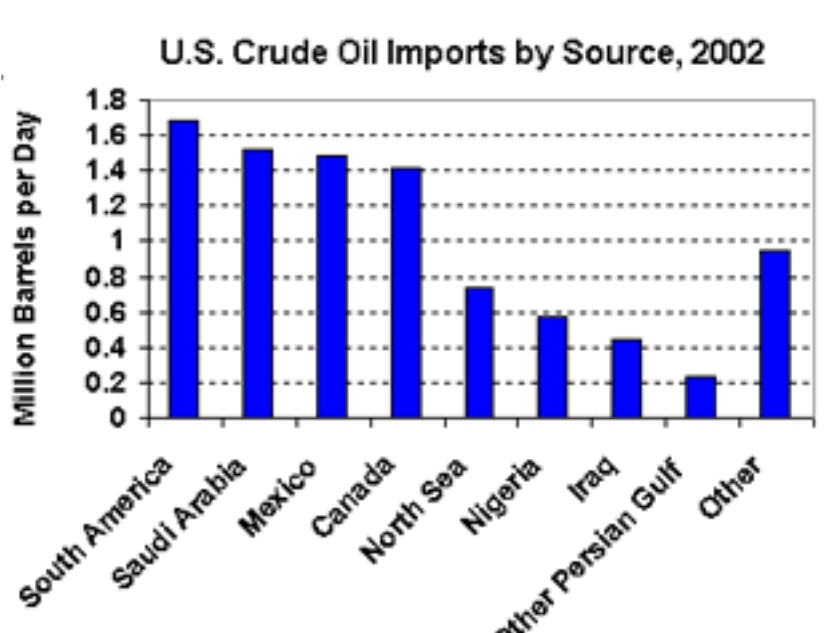
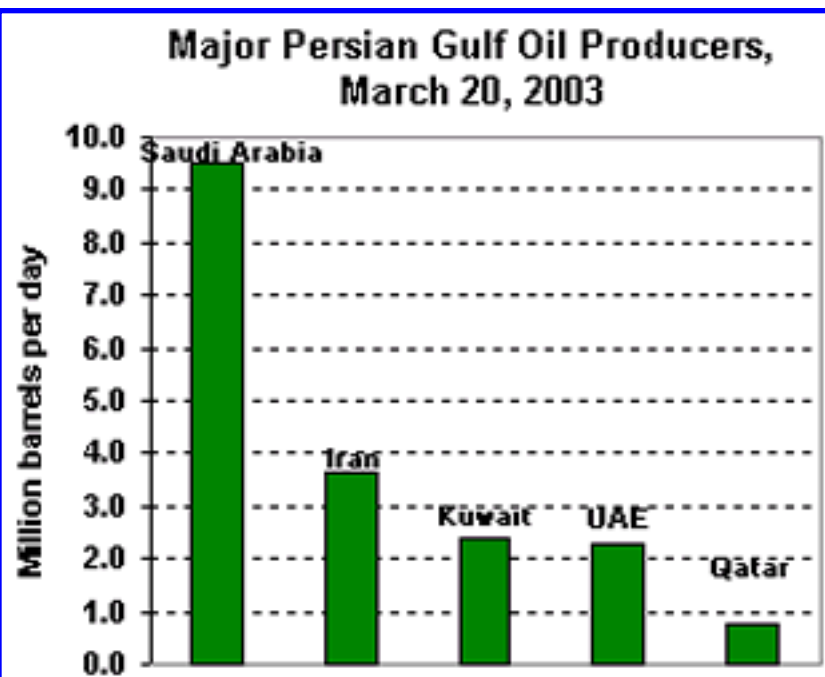
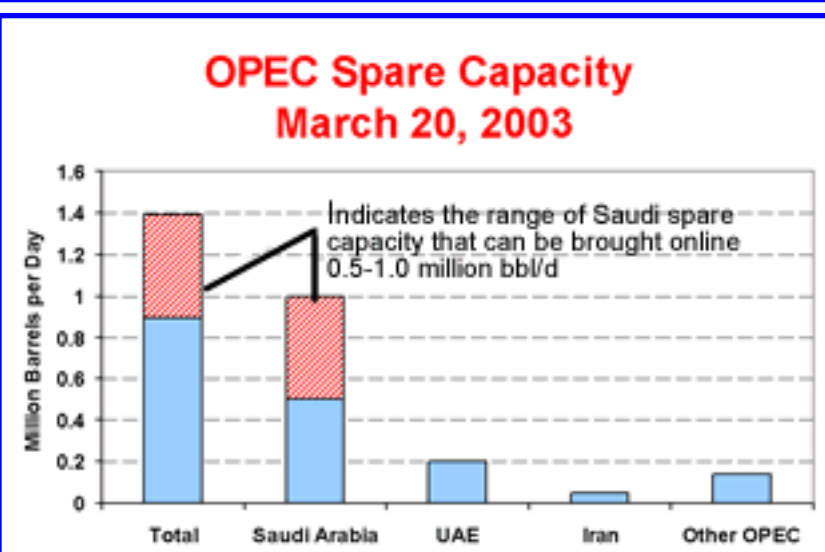
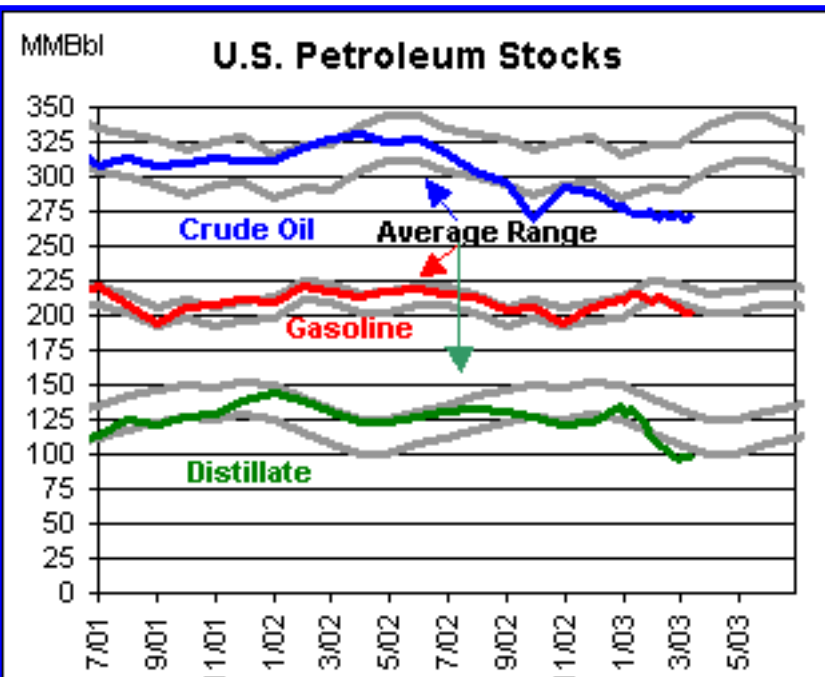
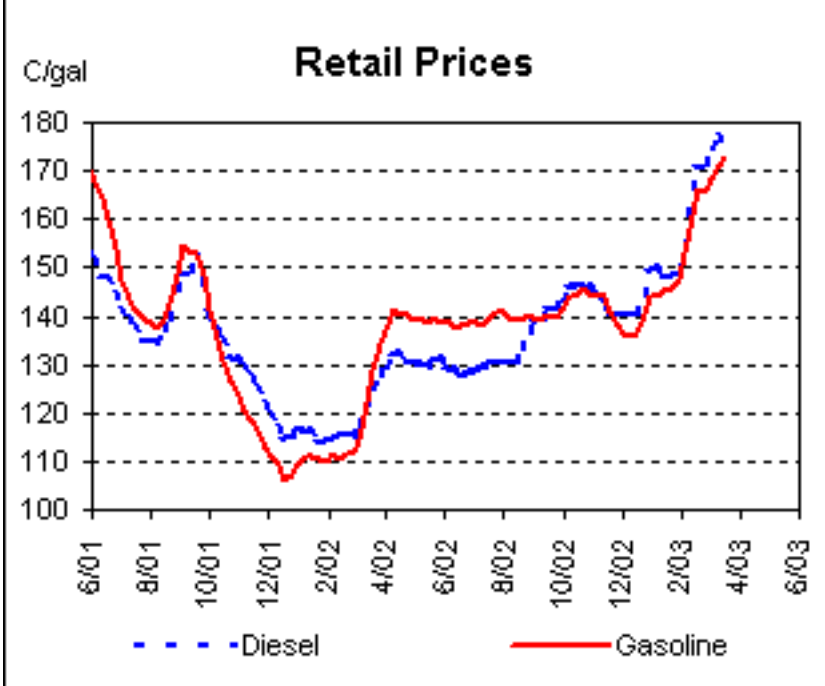
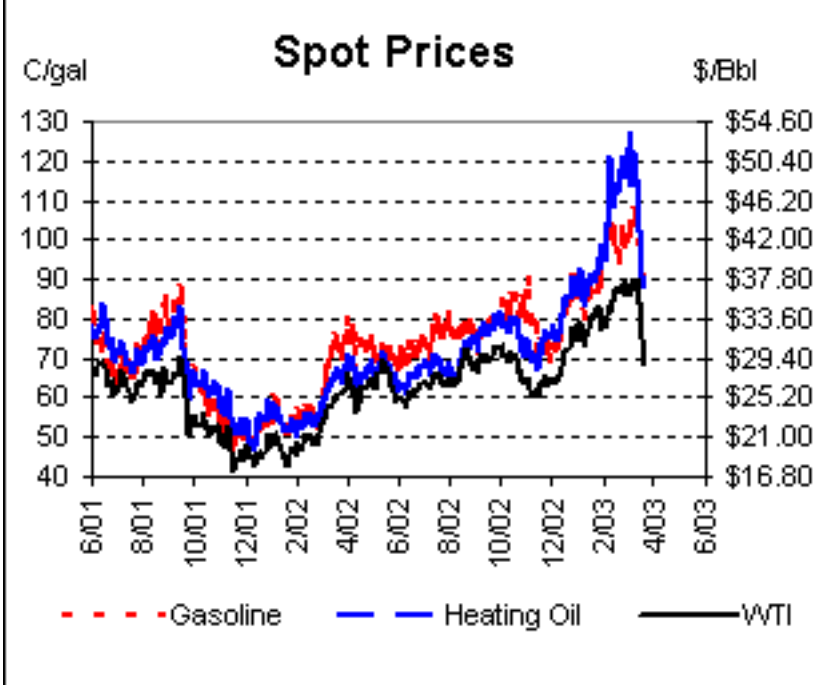
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## Energy Prices\*

| NYMEX Futures           | 3/20/03 | 3/19/03 | Change | 3/13/03 |
|-------------------------|---------|---------|--------|---------|
| WTI (\$/Bbl)            | 28.61   | 29.88   | -1.27  | 36.01   |
| Gasoline (C/gal)        | 90.99   | 94.25   | -3.26  | 105.77  |
| Heating Oil (C/gal)     | 82.44   | 83.61   | -1.17  | 96.71   |
| Natural Gas (\$/MMBtu)  | 5.31    | 5.28    | 0.03   | 5.36    |
| <b>Spot Prices</b>      |         |         |        |         |
| WTI (Cushing, OK)       | 28.62   | 30.01   | -1.39  | 37.87   |
| Gasoline (NYH)          | 85.85   | 89.39   | -3.54  | 99.38   |
| Heating Oil (NYH)       | 88.00   | 88.55   | -0.55  | 106.84  |
| Jet Fuel (NYH)          | 87.50   | 88.30   | -0.80  | 103.84  |
| Natural Gas (Henry Hub) | 5.20    | 5.20    | 0.00   | 5.71    |

\*[Definitions](#)





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# Latest Oil Market Developments

(updated March 21, 2003)

The near-month West Texas Intermediate (WTI) futures contract on the NYMEX closed at \$28.61 per barrel on Thursday, down \$1.27 per barrel from Wednesday's closing price, as oil prices continued their sharp decline which began on March 13. Thursday marked the expiry day for April front-month oil trading on the NYMEX, with May trading beginning today (3/21). On Wednesday (3/19), WTI had dipped below \$30 per barrel for the first time since December 13, 2002. Oil prices have fallen substantially over the last week or so, as big investment funds and other traders have sold off many of their contracts. However, some analysts warn that prices may increase if the war does not progress as smoothly as the market is anticipating.

As of 7:45 am Friday, the near-month WTI futures contract stood at \$27.66 per barrel in overnight ACCESS trading, down \$0.46 per barrel from yesterday's closing price for the May contract, (which, beginning today is the near-month contract) as the market continues its decline which began on March 13. If the price remains this low at the close today, it would mark the lowest near-month price since December 11. Oil prices have fallen substantially since the recent peak on March 12, as many investors are assuming a quick end to the war, and that there would likely be very little damage to oil fields and oil infrastructure in and around Iraq. Although there have been reports of a small number of oil wells on fire near Basra, these reports have not led to a sustained increase in oil prices.

Also, in U.S. product markets overnight, as of 7:45 am today, the near-month gasoline futures contract was at 89.95 cents per gallon, down 1.04 cents per gallon from yesterday's closing price, while the near-month heating oil futures contract was at 80.00 cents per gallon, down 2.44 cents per gallon from yesterday's closing price. Both products are down in conjunction with the decrease in crude oil prices. Yesterday's closing price of 90.99 cents per gallon for the near-month gasoline futures contract was the lowest closing price since January 27, while yesterday's closing price of 82.44 cents per gallon for the near-month heating oil futures contract was the lowest closing price since December 13.

WTI has now fallen 24%, or about \$9 per barrel, from \$37.83 per barrel just more than a week ago (3/12). Prices have tumbled following President Bush's Monday night speech concerning Iraq, as well as other developments which apparently have reduced the uncertainty (the so-called "war premium") that has placed upward pressure on prices in recent months (see below). OPEC, for instance, has stated publicly its intentions to offset any supply disruptions that the market could face in the near future, as has the International Energy Agency (IEA).

Reports from [Venezuela](#), which has been beset by domestic unrest since December 2 when a general strike broke out, indicate that the country may be producing between 2.4 and 3 million barrels per day, according to recent estimates by fired Petroleos de Venezuela (PdVSA) executives and by the Venezuelan government, respectively. These reports indicate that the country has increased its oil production significantly since December, when the strike began, and production fell to as low as 200,000 barrels per day. More than one-third of PdVSA's employees have been fired since the beginning of the strike, and President Hugo Chavez has said that they will not be rehired. Efforts continue to repair damaged refining units at the country's Paraguana complex and the El Palito refinery. On Monday (3/17) it was reported that the government expects the 950,000 barrel-per-day Paraguana refining complex to be operational "soon", and that the smaller El Palito refinery (130,000 barrels per day) may be fully operational in May.

Prior to this past week's abrupt decline, oil prices had been pushed sharply higher in recent months (up over 50% since mid-November) by unrest and oil supply disruptions in Venezuela, by generally falling commercial crude oil stocks in the United States, by a colder-than-normal winter in the U.S. Northeast, and by continued fears that a war with Iraq could adversely affect Middle Eastern oil supplies. Oil markets also worried that a war with Iraq, at the same time that Venezuelan oil exports remained below normal levels, could strain the world's existing spare oil output capacity (estimated at 0.9-1.4 million barrels per day as of 3/20) to its limit. Nearly all of this "excess capacity" is located in Persian Gulf OPEC member countries, particularly Saudi Arabia (0.5-1.0 million barrels per day) the UAE (200,000 barrels per day), and Qatar (110,000 barrels per day). On the other hand, markets are also watching as oil supplies increase (from Venezuela, Saudi Arabia, and elsewhere), as world oil demand begins its normal decline coming out of the harsh winter months and into spring, and as uncertainty over possible war has now largely come to an end. These are all "bearish" factors, tending to push oil prices down.

Other issues related to **world oil markets** include:

- British troops reportedly captured Iraq's Persian Gulf coast, the Fao Peninsula, on Friday (3/21) morning. Meanwhile, U.S troops reportedly captured the Iraqi port of Umm Qasr and prepared to move on the major port city of Basra, as other forces pushed deeper into Iraq.
- Press reports from Iraq's two U.N.-authorized export terminals, Ceyhan in Turkey, and Mina al-Bakr in the Persian Gulf, have indicated that export facilities are basically sitting idle with the effective end of the UN "oil-for-food" program. At Ceyhan, the 600,000-barrel Caithness, reportedly completed loading late Thursday (3/20), with no other ships scheduled to dock. Turkey reported Friday morning that the oil pipeline runing from Kirkuk to Turkey's Mediterranean port of Ceyhan was still open, but given that no ships were due to load crude, the port's storage tanks (with an estimated 6.5 million barrels of capacity) would be full by Saturday, effectively forcing a halt to oil pumping on the Kirkuk-Ceyhan line. Other reports indicated that the rate of oil flows on the pipeline had fallen below 500,000 barrels per day.
- On Thursday (3/20), Chevron Nigeria Limited declared "force majeure" on 140,000 barrels per day of its 450,000 barrels-per-day total production from Nigeria. On Tuesday (3/18) and Wednesday (3/19), Shell -- the largest producer in Nigeria -- announced closures of oil flow stations owing to recent violence near the company's facilities, as well as plans to withdraw all staff from North of the Niger Delta. This likely would shut-in about 126,000 barrels per day of its 800,000-barrels-per-day total oil output from Nigeria. Combined, the Shell and Chevron oil supply disruptions would total around 266,000 barrels per day, out of around 1.25 million barrels per day total output from the two companies in Nigeria.
- On Thursday (3/20) U.S. Energy Secretary Spencer Abraham said, "World energy supplies are more than adequate to compensate for any disruption," noting that oil producing countries, particularly Saudi Arabia, have been significantly increasing production and tanker loadings in recent weeks. Secretary Abraham also emphasized the Department of Energy's close contact with the International Energy Agency (IEA) to assess global oil market conditions. In related news, the IEA announced today (3/20) that it did not see "any need at this hour" to release oil from Western nations' oil stockpiles, and that "producers are confident they can keep the market adequately supplied."
- The U.S. Department of Energy announced on Wednesday (3/19) that suspension of Iraqi oil exports did not necessarily constitute a "severe supply emergency" which would call for "imminent" release of oil from the U.S. Strategic Petroleum Reserve (SPR).
- On Thursday (3/20), OPEC President Abdullah al-Attiyah, reiterated a pledge made on Wednesday (3/19) in a telephone conversation with IEA Executive Director Claude Mandil, assuring that OPEC was committed to guarantee oil supplies and to "make up for any possible disruption...as a result of current conditions." Meanwhile, OPEC Secretary General Alvaro Silva authorized OPEC member states to use their spare capacity in order to make up any oil supply shortfalls. Silva added that markets were "more than well supplied" and that OPEC had "sufficient spare capacity to cope with the Iraq situation."
- On Thursday (3/20), a U.S. Defense Department spokesperson stated that "We can confirm reports that [Saddam] has taken measures to booby trap oil wells by wiring the wells so that one person can blow them up." Further reports indicated possible oil fires at up to 30 wells near Basra in southern Iraq. Iraqi Oil Minister Rasheed has denied these reports. In statements made on Thursday afternoon, Defense Secretary Donald Rumsfeld said that he has seen indications that the Iraqi regime may have set fires to oil wells in the South.
- Oil output from the "OPEC-10" countries (excluding Iraq) reportedly was up to 24.622 million barrels per day in February, from 23.102 million barrels per day in January, according to OPEC's monthly market report. Saudi Arabia and Venezuela accounted for much of this increase, with output jumping by 362,000 barrels per day (to 8.793 million barrels per day) and 881,000 barrels per day (to 1.475 million barrels per day), respectively.
- Shell reportedly (3/19) has halted production at Iran's 60,000-barrel-per-day Soroosh field in the northern Persian Gulf due to safety fears.
- As of March 21, 2003, the [U.S. Strategic Petroleum Reserve \(SPR\)](#) contained 599.3 million barrels of oil. The SPR has a maximum drawdown capability of 4.3 million bbl/d for 90 days, with oil beginning to arrive in the marketplace 15 days after a presidential decision to initiate a drawdown. The SPR drawdown rate declines to 3.2 million bbl/d from days 91-120, to 2.2 million bbl/d for days 121-150, and to 1.3 million bbl/d for days 151-180.

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Latest Middle Eastern Oil Supply Disruption Information

(updated March 21, 2003)

For the time being, EIA is assuming that the flow of legal Iraqi oil exports (not counting illegal oil "smuggling") has been effectively stopped. Combined with other lost oil production from Iran's Soroosh field, the gross middle eastern oil supply disruption is estimated at 1.8 million barrels per day (MMBD). Given the additional oil supplies brought online recently by other oil producing countries, EIA estimates the net Middle Eastern oil supply disruption about 400,000 barrels per day.

| Middle Eastern Oil Supply Disruption (million barrels per day MMBD)   |   |                                    |                       |
|---|---|------------------------------------|-----------------------|
|   | Day #1 of Disruption (3/19/03)                | Current (3/20/03)                  |                       |
| Gross*  | 1.8   | 1.8                                |                       |
| Net*  | 0.4   | 0.4                                |                       |
| <i>Note:</i> Today's Middle Eastern gross oil supply disruption is based on the loss of Iraqi exports from the UN "oil-for-food" program, which averaged 1.73 MMBD in February 2003, plus the loss of 0.06 MMBD resulting from Shell's shutdown of its Soroosh oil field in Iran's Northern Gulf. This gross disruption is currently offset by increased output from other oil producing countries. |   |                                    |                       |
| Price Movements   |   |                                    |                       |
| Daily Price Information   | Week Prior (3/12)                             | Day #1 (3/19)                      | Current (3/20)        |
| WTI Futures Price (\$/bbl)  | 37.83   | 29.88                              | 28.61                 |
| U.S. Weekly Price Survey  | Monday Prior (3/17)                           | Week #1 (Monday 3/24)              | Current (Monday 3/24) |
| Retail Regular Gasoline (cents/gallon)  | 172.8   | NA                                 | NA                    |
| <i>Note:</i> EIA collects a national survey of regular retail gasoline prices every Monday. The current oil supply disruption is not the only factor affecting prices. For more information concerning EIA price statistics and analysis, see: <a href="#">This Week in Petroleum</a> .   |   |                                    |                       |
| World Oil Supply  |   |                                    |                       |
|   | Prior to Disruption<br>March 2003 (Base Case) | Current Estimate<br>March 20, 2003 |                       |
| OPEC-10 Production (MMBD)   | 25.3  | 26.5                               |                       |
| Iraqi Production (MMBD)   | 2.3   | 0                                  |                       |
| Surplus Capacity (MMBD)*  | 1.5-2.0                                       | 0.9-1.4                            |                       |
| <i>Note:</i> For more detailed analysis of OPEC production, see EIA's <a href="#">OPEC Fact Sheet</a> . For an overview of the Iraqi oil sector, see EIA's <a href="#">Iraq Country Analysis Brief</a> .  |   |                                    |                       |

| OPEC Crude Oil Production <sup>1</sup><br>(Thousand barrels per day) |                         |                          |                           |                            |                                  |  |
|--|-------------------------|--------------------------|---------------------------|----------------------------|----------------------------------|--|
|  | January 2003 Production | February 2003 Production | March 20, 2003 Production | 2/01/03 Quota <sup>2</sup> | Production Capacity <sup>3</sup> | March 20, 2003 Surplus Capacity <sup>3</sup> |
| Algeria  | 1,050                   | 1,050                    | 1,100                     | 782                        | 1,100                            | 0  |
| Indonesia  | 1,070                   | 1,060                    | 1,050                     | 1,270                      | 1,050                            | 0  |
| Iran   | 3,600                   | 3,700                    | 3,640                     | 3,597                      | 3,690                            | 50   |
| Kuwait <sup>4</sup>  | 2,000                   | 2,100                    | 2,400                     | 1,966                      | 2,400                            | 0  |
| Libya  | 1,350                   | 1,370                    | 1,370                     | 1,312                      | 1,400                            | 30   |
| Nigeria  | 2,100                   | 2,200                    | 2,000                     | 2,018                      | 2,000                            | 0  |
| Qatar  | 700                     | 740                      | 740                       | 635                        | 850                              | 110  |
| Saudi Arabia <sup>4</sup>  | 8,500                   | 8,800                    | 9,500                     | 7,963                      | 10,000<br>-10,500 <sup>5</sup>   | 500<br>-1,000 <sup>5</sup>                   |
| UAE <sup>6</sup>   | 2,050                   | 2,150                    | 2,300                     | 2,138                      | 2,500                            | 200  |
| Venezuela <sup>7</sup>   | 614                     | 1,400                    | 2,400                     | 2,819                      | 2,400                            | 0  |
| OPEC 10 Crude Oil Total  | 23,034                  | 24,570                   | 26,500                    | 24,500                     | 27,390-<br>27,890 <sup>5</sup>   | 890-<br>1,390 <sup>5</sup>                   |
| Iraq <sup>8</sup>  | 2,545                   | 2,490                    | 0                         | N/A                        | 0                                | 0  |
| OPEC Crude Oil Total   | 25,579                  | 27,060                   | 26,500                    | N/A                        | 27,390-<br>27,890 <sup>5</sup>   | 890-<br>1,390 <sup>5</sup>                   |
| Other Liquids <sup>9</sup>   | 2,761                   | 2,761                    | 2,761                     | N/A                        |                                  |  |
| Total OPEC Production  | 28,340                  | 29,821                   | 29,261                    | N/A                        |                                  |  |

NA: Not Applicable  
1Crude oil does not include lease condensate or natural gas liquids.  
2Quotas are based on crude oil production only.  
3Maximum sustainable production capacity, defined as the maximum amount of production that: 1) could be brought online within a period of 30 days; and 2) sustained for at least 90 days.  
4Kuwaiti and Saudi Arabian figures each include half of the production from the Neutral Zone between the two countries. Saudi Arabian production also includes oil produced from its offshore Abu Safa field on behalf of Bahrain.  
5 Saudi Arabia is the only country with the capability to further increase its capacity significantly within 90 days. As a result, the estimates for Saudi Arabia are as shown as a range, with the lower figure using the 30 days' definition and the upper end reflecting Saudi Arabia's 90 days' capability. OPEC's surplus capacity estimates are also shown as a range for this reason.  
6The UAE is a federation of seven emirates. The quota applies only to the emirate of Abu Dhabi, which controls the vast majority of the UAE's economic and resource wealth.  
7Venezuelan capacity and production numbers exclude extra heavy crude oil used to produce Orimulsion. It has been estimated that it would take 4 months from the end of the current crisis for Venezuela to restore its pre-strike production capacity. Venezuelan production projections assume production remains at current levels.  
8Iraqi oil exports are approved by the United Nations under the oil-for-food program for Iraq established by Security Council Resolution 986 (April 1995) and subsequent resolutions. As a result, Iraqi production and exports have not been a part of any recent OPEC agreements.  
9Other liquids include lease condensate, natural gas liquids, and other liquids including volume gains from refinery processing.

| Top World Oil Net Exporters, 2002* |                      |                                       |
|------------------------------------|----------------------|---------------------------------------|
|                                    | Country              | Net Exports (million barrels per day) |
| 1)                                 | Saudi Arabia         | 6.76                                  |
| 2)                                 | Russia               | 5.03                                  |
| 3)                                 | Norway               | 3.14                                  |
| 4)                                 | Venezuela            | 2.26                                  |
| 5)                                 | Iran                 | 2.30                                  |
| 6)                                 | United Arab Emirates | 1.95                                  |
| 7)                                 | Nigeria              | 1.85                                  |
| 8)                                 | Kuwait               | 1.73                                  |
| 9)                                 | Mexico               | 1.69                                  |
| 10)                                | Iraq                 | 1.58                                  |
| 11)                                | Algeria              | 1.27                                  |
| 12)                                | Libya                | 1.16                                  |

\*Table includes all countries with net exports exceeding 1 million barrels per day in 2002.

In general, OECD Europe depends far more heavily on the Persian Gulf and North Africa for oil imports than does the United States. Japan receives over three-quarters of its oil supplies from the Persian Gulf (mainly the UAE, Saudi Arabia, Kuwait, Iran, and Qatar) with the remainder coming from Indonesia, China, and other sources.

| Major Sources of U.S. Net Petroleum Imports, 2002*<br>(all volumes in million barrels per day) |                       |                       |                               |
|--|-----------------------|-----------------------|-------------------------------|
|  | Total Net Oil Imports | Net Crude Oil Imports | Net Petroleum Product Imports |
| Canada   | 1.83                  | 1.42                  | 0.41                          |
| Saudi Arabia   | 1.55                  | 1.52                  | 0.03                          |
| Venezuela  | 1.37                  | 1.20                  | 0.17                          |
| Mexico   | 1.28                  | 1.49                  | -0.21                         |
| Nigeria  | 0.60                  | 0.57                  | 0.03                          |
| United Kingdom   | 0.47                  | 0.41                  | 0.06                          |
| Iraq   | 0.44                  | 0.44                  | 0.00                          |
| Norway   | 0.38                  | 0.34                  | 0.04                          |
| Angola   | 0.33                  | 0.32                  | 0.01                          |
| Net Imports  | 10.38                 | 9.04                  | 1.34                          |

\* Table includes all countries from which the U.S. imported more than 300,000 barrels per day of total oil in 2002.

Having provided this information, it is important to stress that oil is a "fungible" (interchangeable, traded on a world market) commodity, that a disruption of oil flows anywhere will affect the price of oil everywhere, and that the specific suppliers of oil to a particular country or region are not of enormous significance, at least from an economic point of view.

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# Latest U.S. Weekly EIA Petroleum Information

(last complete update: March 19, 2003)

Click [here](#) for the latest U.S. weekly data on petroleum supply and demand.

## Petroleum Inventories

U.S. commercial crude oil inventories (excluding those in the Strategic Petroleum Reserve) increased by 0.4 million barrels, and are just above the lower operational inventory level (LOI). Despite an increase in crude oil refinery inputs, inventories for both major petroleum products fell last week. Distillate fuel inventories decreased by 1.1 million barrels, with the decline split among high-sulfur distillate fuel (heating oil) and low-sulfur distillate fuel (diesel fuel). Motor gasoline inventories fell by 0.9 million barrels last week and remain below the low end of the normal range. As of March 14, total commercial petroleum inventories are 131.2 million barrels less than last year at this time.

## Propane Inventories Slip Below LOI

With the last vestiges of winter sweeping across the upper plains last week, U.S. inventories of propane fell nearly 0.7 million barrels, slipping about 0.3 million barrels below the Lower Operational Level (LOI) to end the week of March 14, 2003 at an estimated 18.2 million barrels. An inventory level below the LOI may be indicative of a situation where supply flexibility could be constrained, which some industry observers say is already occurring in some parts of the nation as inventories reach historically low levels. Reports of supply constraints were beginning to surface in the Mid-continent region in recent days as some storage operators and pipeline companies were in effect scrambling to maintain propane supplies to consumers in the region. Nevertheless, the Midwest region reported a 0.8 million-barrel stockdraw last week, indicating propane supplies are still flowing from primary storage. In contrast, East Coast inventories grew by more than 0.1 million barrels last week while Gulf Coast inventories remained unchanged during this same period.

## Petroleum Imports

U.S. crude oil imports (including imports going into the Strategic Petroleum Reserve) averaged 8.7 million barrels per day last week, a rise of 1.1 million barrels per day from the previous week, and continuing the up-and-down movements in recent weeks. Crude oil imports have averaged over 8.3 million barrels per day over the last four weeks, but this is still 300,000 barrels per day less than averaged during the same four-week period last year. Although the origins of weekly crude oil imports are very preliminary and thus not published, imports from Venezuela last week continued to be much above levels seen earlier in the year, although they were down some from the levels seen the last two weeks. Total motor gasoline imports (including both finished gasoline and gasoline blending components) averaged 1 million barrels per day last week, while distillate fuel imports averaged 500,000 barrels per day.

Preliminary monthly data on the origins of U.S. crude oil imports in January 2003 has been released and it shows that three countries each exported more than 1.5 million barrels per day of crude oil to the United States. The top sources of U.S. crude oil imports in January 2003 were: Saudi Arabia (1.820 million barrels per day), Canada (1.621 million barrels per day), and Mexico (1.566 million barrels per day). This is the largest monthly amount of crude oil imported from Saudi Arabia since August 2001. Rounding out the top ten sources, in order, were Nigeria (0.798 million barrels per day), Iraq (0.600 million barrels per day), United Kingdom (0.411 million barrels per day), Venezuela (0.390 million barrels per day), Angola (0.245 million barrels per day), Kuwait (0.134 million barrels per day), and Colombia (0.120 million barrels per day). Imports from Venezuela were at their lowest level since February 1989, as Venezuelan exports were severely curtailed for much of the month following the general strike in that country. Total crude oil imports averaged 8.538 million barrels per day in January, a decline of nearly 100,000 barrels per day from December, and represents the lowest level since February 2000. The top three origins accounted for 59 percent of these U.S. crude oil imports in January, while the top ten sources accounted for 90 percent of all U.S. crude oil imports. It should be noted that these numbers are preliminary and are subject to change when final data for the month is released on March 21, 2003.

## Refinery Inputs and Production

U.S. crude oil refinery inputs increased to 14.8 million barrels per day during the week ending March 14, the largest amount since the week ending January 10. Most of the increase in crude oil refinery inputs last week resulted in an increase in distillate fuel refinery output, while motor gasoline and jet fuel refinery production remained relatively flat.

## Petroleum Demand

Total product supplied over the last four-week period averaged 20.1 million barrels per day, or about 3.0 percent more than the same period last year. Over the last four weeks, motor gasoline demand is up 0.3 percent, and distillate fuel demand is up 16.4 percent compared to the same period last year.

Kerosene-type jet fuel demand is 4.6 percent less than last year over the latest four-week period.

## U.S. Retail Gasoline Price Increases Again

The U.S. average retail price for regular gasoline rose last week for the thirteenth time in fourteen weeks, increasing by 1.6 cents per gallon as of March 17 to reach 172.8 cents per gallon, which is 44.0 cents per gallon higher than a year ago. This price is 1.5 cents higher per gallon than the highest price in nominal dollars since EIA began recording this data in August 1990. While the outlook could go either way, strong gasoline demand ahead of the normal seasonal increase, extensive refinery maintenance, and still tight crude oil supply, may be pointing to added price pressure in the months ahead. Also, the effect of the possible war in Iraq is impossible to predict, as the length of the conflict and collateral damage to petroleum facilities, or the lack thereof, could push crude oil prices either way. Prices were up throughout most of the country, with the largest increase occurring in California, where prices rose 6.1 cents to end at 214.5 cents per gallon, the highest price ever in our survey, which for California goes back to May 2000. This is the third week in a row that California prices have been above \$2 per gallon. Prices for the entire West Coast also breached the \$2 mark, hitting 204.1 cents per gallon on March 17, and prices in PADD 5 appear to be an important driver in the increase of national prices.

Retail diesel fuel prices decreased for the first time in nine weeks, falling 1.9 cents per gallon to a national average of 175.2 cents per gallon as of March 17. This decrease comes after four successive weeks of record prices. Retail diesel prices were down throughout most the country, with the largest price decrease occurring in the Midwest, where prices fell 3.0 cents per gallon to end at 170.8 cents per gallon. Prices in New England remained the highest in the nation, losing 1.0 cent to 199.1 cents per gallon. California saw a slight price increase, with prices rising by 0.3 cent to end at 186.9 cents per gallon.

## Heating Oil Prices Continue to Decline

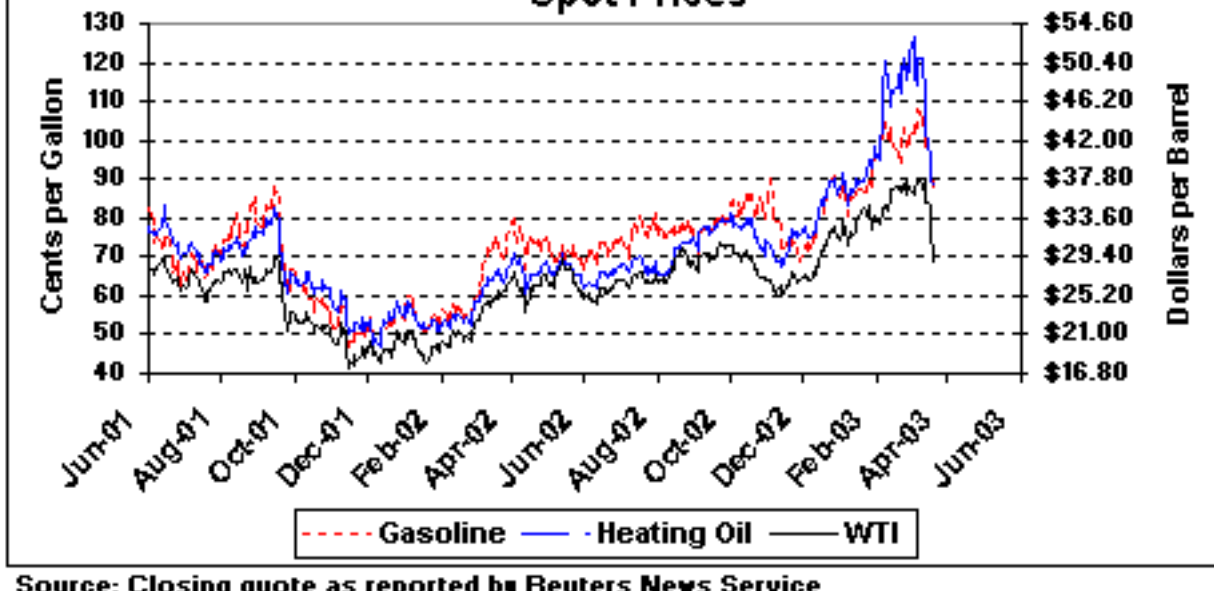
Residential heating oil prices decreased 5.1 cents per gallon for the week ending March 17, 2003, averaging 180.3 cents per gallon, but are 62.1 cents per gallon higher than last year at this time. Meanwhile, wholesale heating oil prices decreased 17.6 cents per gallon this past week, to 109.4 cents per gallon.

Residential propane prices decreased 7.2 cents per gallon to reach 158.2 cents per gallon, and are 46.2 cents higher than one year ago. Wholesale propane prices decreased 5.9 cents per gallon, from 80.4 cents per gallon to 74.5 cents per gallon during the week ending March 17.

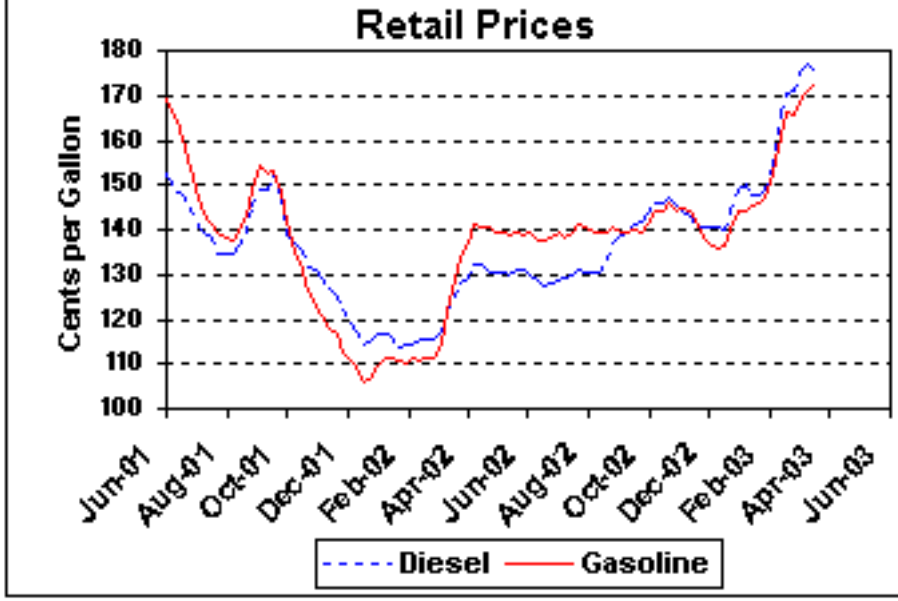
These prices come from the last survey done for the 2002/03 winter season. Weekly retail and wholesale prices for heating oil and propane will restart for the 2003/04 winter season beginning in October 2003.

## U.S. Petroleum Prices

(updated March 21, 2003)



Source: Closing quote as reported by Reuters News Service



Source: Energy Information Administration (EIA)

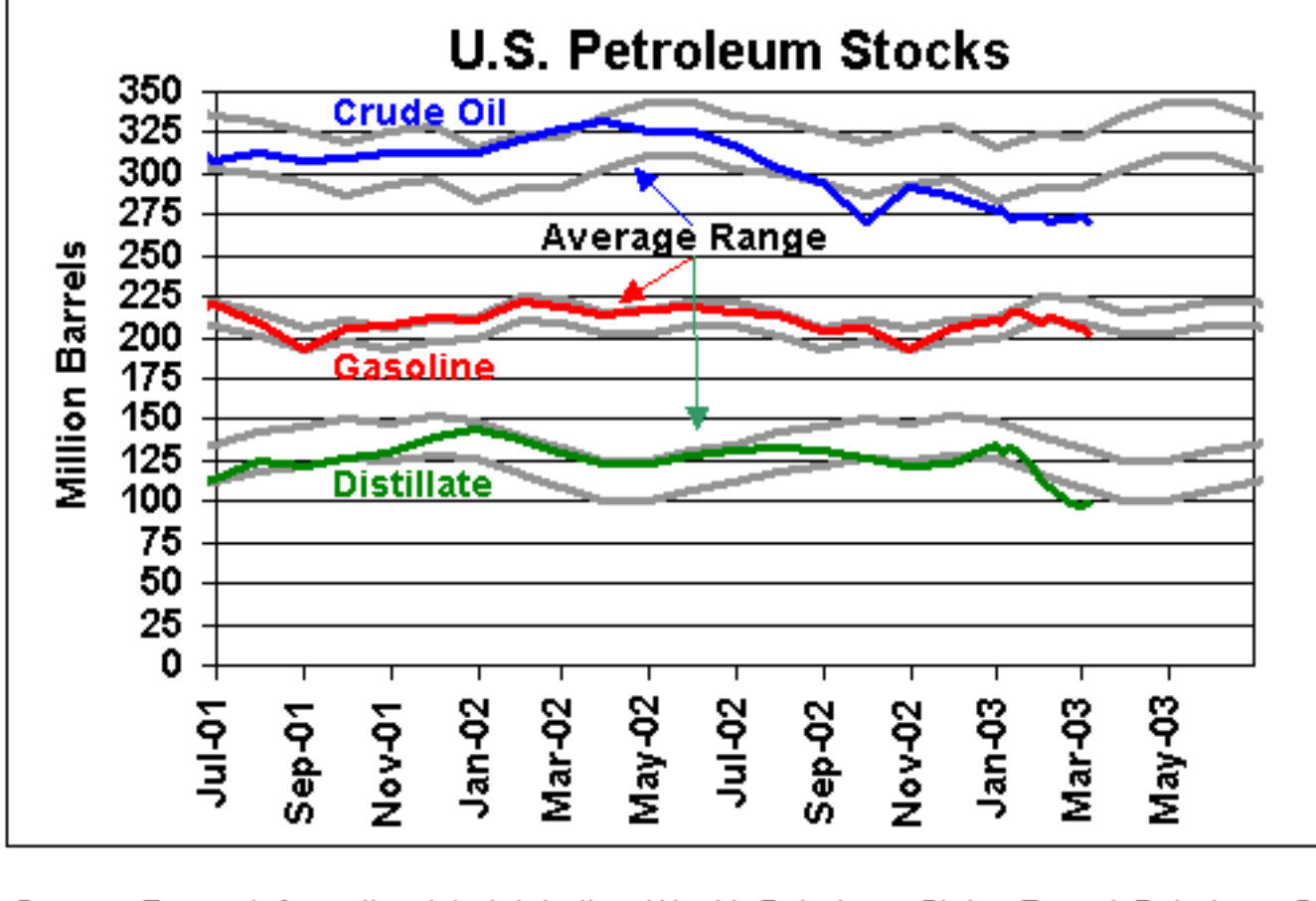
## Crude Oil and Oil Products Price Table

| Date      | WTI Crude Oil |         | Gasoline         |         | Heating Oil      |         | Kerojet | Propane          |        | EIA Weekly Retail |        |
|-----------|---------------|---------|------------------|---------|------------------|---------|---------|------------------|--------|-------------------|--------|
|           | Spot          | Futures | Spot             | Futures | Spot             | Futures |         | Spot             | Spot   | US Average        |        |
|           | Cushing       |         | NYH              |         | NYH              |         |         | Mt. Belvies      | Conway |                   |        |
|           | \$/bbl        | \$/bbl  | cents per gallon |         | cents per gallon |         | ct/gal  | cents per gallon |        | Gasoline          | Diesel |
| 1/31/2003 | \$33.51       | \$33.51 | 95.60            | 97.56   | 95.83            | 95.88   | 96.33   | 72.38            | 65.57  |                   |        |
| 2/13/2003 | \$32.84       | \$32.76 | 94.63            | 95.68   | 94.85            | 91.81   | 96.55   | 65.38            | 65.25  | 152.7             | 154.2  |
| 2/14/2003 | \$33.81       | \$33.58 | 98.90            | 100.06  | 93.05            | 96.19   | 101.93  | 67.25            | 67.25  |                   |        |
| 2/15/2003 | \$33.91       | \$33.93 | 101.30           | 103.15  | 103.60           | 99.40   | 106.55  | 70.19            | 69.25  |                   |        |
| 2/16/2003 | \$34.36       | \$34.16 | 101.00           | 102.83  | 112.50           | 102.71  | 115.38  | 70.19            | 69.25  |                   |        |
| 2/17/2003 | \$35.05       | \$35.12 | 104.38           | 106.70  | 120.50           | 109.57  | 122.00  | 74.25            | 74.25  |                   |        |
| 2/10/2003 | \$34.46       | \$34.48 | 100.53           | 102.75  | 114.48           | 104.43  | 116.35  | 72.25            | 72.25  | 160.7             | 166.2  |
| 2/11/2003 | \$35.43       | \$35.44 | 103.50           | 105.59  | 112.71           | 105.76  | 115.08  | 69.25            | 68.25  |                   |        |
| 2/12/2003 | \$35.83       | \$35.77 | 100.85           | 103.36  | 108.58           | 103.05  | 108.51  | 64.50            | 64.50  |                   |        |
| 2/13/2003 | \$36.63       | \$36.36 | 100.48           | 103.14  | 110.28           | 105.28  | 110.53  | 62.75            | 61.88  |                   |        |
| 2/14/2003 | \$36.61       | \$36.80 | 98.48            | 102.23  | 112.70           | 106.07  | 113.70  | 64.63            | 62.75  |                   |        |
| 2/17/2003 | NA            | NA      | NA               | NA      | NA               | NA      | NA      | NA               | NA     | 166.0             | 170.4  |
| 2/18/2003 | \$36.88       | \$36.96 | 96.78            | 99.45   | 113.24           | 106.54  | 114.54  | 64.63            | 62.75  |                   |        |
| 2/19/2003 | \$37.02       | \$37.16 | 97.00            | 100.22  | 116.73           | 109.93  | 117.93  | 67.13            | 64.13  |                   |        |
| 2/20/2003 | \$36.45       | \$36.73 | 94.08            | 96.58   | 112.40           | 105.87  | 115.90  | 68.75            | 68.00  |                   |        |
| 2/21/2003 | \$36.76       | \$35.58 | 98.75            | 101.28  | 117.00           | 110.85  | 120.50  | 72.00            | 69.25  |                   |        |
| 2/24/2003 | \$37.29       | \$36.48 | 102.93           | 104.75  | 120.73           | 114.67  | 123.60  | 81.00            | 73.25  | 165.8             | 170.3  |
| 2/25/2003 | \$36.06       | \$36.06 | 98.48            | 100.78  | 115.50           | 112.26  | 119.25  | 34.50            | 81.50  |                   |        |
| 2/26/2003 | \$37.36       | \$37.70 | 99.63            | 101.85  | 119.00           | 115.43  | 122.75  | 105.00           | 87.50  |                   |        |
| 2/27/2003 | \$36.83       | \$37.20 | 99.40            | 101.80  | 117.90           | 115.43  | 120.40  | 110.50           | 101.00 |                   |        |
| 2/28/2003 | \$36.76       | \$36.60 | 101.20           | 103.77  | 122.25           | 125.53  | 124.50  | 127.50           | 89.50  |                   |        |
| 3/3/2003  | \$36.10       | \$35.88 | 102.05           | 109.48  | 126.88           | 103.60  | 127.75  | 77.44            | 70.25  | 168.6             | 175.3  |
| 3/4/2003  | \$36.95       | \$36.89 | 103.61           | 111.22  | 118.35           | 104.86  | 121.35  | 75.75            | 66.75  |                   |        |
| 3/5/2003  | \$36.86       | \$36.69 | 102.10           | 110.09  | 117.13           | 104.39  | 112.26  | 72.25            | 62.38  |                   |        |
| 3/6/2003  | \$37.21       | \$37.00 | 103.03           | 110.60  | 114.03           | 105.56  | 114.03  | 70.50            | 61.75  |                   |        |
| 3/7/2003  | \$37.76       | \$37.78 | 107.80           | 115.67  | 121.00           | 110.85  | 119.63  | 70.44            | 63.00  |                   |        |
| 3/10/2003 | \$37.18       | \$37.27 | 106.20           | 112.82  | 120.75           | 108.57  | 117.86  | 68.00            | 60.50  | 171.2             | 177.1  |
| 3/11/2003 | \$36.81       | \$36.72 | 103.70           | 109.87  | 116.60           | 103.02  | 114.10  | 65.38            | 58.25  |                   |        |
| 3/12/2003 | \$37.87       | \$37.83 | 105.08           | 111.39  | 115.45           | 103.52  | 112.45  | 64.50            | 57.38  |                   |        |
| 3/13/2003 | \$36.05       | \$36.01 | 99.38            | 105.77  | 106.84           | 96.71   | 103.84  | 62.50            | 54.94  |                   |        |
| 3/14/2003 | \$35.41       | \$35.38 | 98.75            | 104.04  | 102.30           | 94.07   | 98.55   | 60.13            | 53.25  |                   |        |
| 3/17/2003 | \$34.92       | \$34.93 | 95.37            | 102.71  | 95.70            | 91.57   | 92.95   | 61.63            | 56.50  | 172.8             | 175.2  |
| 3/18/2003 | \$31.55       | \$31.67 | 91.10            | 96.19   | 90.45            | 85.78   | 90.20   | 59.38            | 52.38  |                   |        |
| 3/19/2003 | \$30.01       | \$29.88 | 89.39            | 94.25   | 88.55            | 83.61   | 88.50   | 58.38            | 53.19  |                   |        |
| 3/20/2003 | \$28.62       | \$28.61 | 85.85            | 90.39   | 88.00            | 82.44   | 87.50   | 57.88            | 53.50  |                   |        |

Source: Spot and futures closing quotes as reported by Reuters News Service, retail prices reported by EIA

## U.S. Petroleum Supply

| (Thousand Barrels per Day)        | Four Weeks Ending |           | vs. Year Ago |         |
|-----------------------------------|-------------------|-----------|--------------|---------|
|                                   | 3/14/2003         | 3/14/2002 | Diff.        | % Diff. |
| <b>Refinery Activity</b>          |                   |           |              |         |
| Crude Oil Input                   | 14,502            | 14,357    | 145          | 1.0%    |
| Operable Capacity                 | 16,800            | 16,785    | 15           | 0.1%    |
| Operable Capacity Utilization (%) | 87.3%             | 86.9%     | 0.4%         |         |
| <b>Production</b>                 |                   |           |              |         |
| Motor Gasoline                    | 7,979             | 8,107     | -128         | -1.6%   |
| Jet Fuel                          | 1,416             | 1,474     | -58          | -3.9%   |
| Distillate Fuel Oil               | 3,667             | 3,422     | 245          | 7.2%    |
| <b>Imports</b>                    |                   |           |              |         |
| Crude Oil (incl. SPR)             | 8,330             | 8,646     | -316         | -3.7%   |
| Motor Gasoline                    | 769               | 767       | 2            | 0.2%    |
| Jet Fuel                          | 112               | 97        | 15           | 15.8%   |
| Distillate Fuel Oil               | 522               | 235       | 287          | 122.4%  |
| Total                             | 10,901            | 10,856    | 45           | 0.4%    |
| <b>Exports</b>                    |                   |           |              |         |
| Crude Oil                         | 10                | 6         | 4            | 70.7%   |
| Products                          | 933               | 991       | -58          | -5.9%   |
| Total                             | 943               | 998       | -55          | -5.5%   |
| <b>Products Supplied</b>          |                   |           |              |         |
| Motor Gasoline                    | 8,664             | 8,642     | 22           | 0.3%    |
| Jet Fuel                          | 1,472             | 1,544     | -72          | -4.7%   |
| Distillate Fuel Oil               | 4,343             | 3,730     | 613          | 16.4%   |
| Total                             | 20,083            | 19,494    | 589          | 3.0%    |
| <b>Stocks (Million Barrels)</b>   |                   |           |              |         |
|                                   | 3/14/2003         | 3/14/2002 | Diff.        | % Diff. |
| Crude Oil (excl. SPR)             | 270.2             | 328.8     | -58.6        | -17.8%  |
| Motor Gasoline                    | 201.1             | 216.2     | -15.1        | -7.0%   |
| Jet Fuel                          | 39.5              | 41.3      | -1.8         | -4.4%   |
| Distillate Fuel Oil               | 97.2              | 127.1     | -29.9        | -23.5%  |
| Total (excl. SPR)                 | 882.2             | 1,013.4   | -131.2       | -12.9%  |



Source: Energy Information Administration, Weekly Petroleum Status Report, Petroleum Supply Monthly.

File last modified: March 21, 2003

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## Special Topic -- Oil Market Status Prior to Iraq Disruption

(updated March 20, 2003)

Between February 3 and February 10, the U.S. average retail price for regular gasoline rose by 8.0 cents per gallon, which ties the largest weekly increase seen since EIA's weekly survey began in August 1990; the national average price for diesel fuel increased by 12.0 cents per gallon, another weekly record increase; residential heating oil prices increased by 18.1 cents per gallon, the largest weekly increase in 2 years; and residential propane prices increased by 4.5 cents per gallon. Since that time, product prices have continued to increase, especially for gasoline and diesel fuel. Even before Iraqi oil production and exports were disrupted, petroleum prices were high. So, how did we get to this point, and what will prices do now?

The short answer to the first part of that question is that prices were high during the first early 2003 because supplies had diminished (both for crude oil and refined products), while demand had stayed relatively strong. Crude oil, which is refined to make the petroleum products consumers use, had seen prices generally increasing since early 2002. From early 2002 to early December 2002, the West Texas Intermediate (WTI) spot crude oil price increased from about \$20 per barrel to about \$27 per barrel, largely as a result of low production levels from OPEC countries. While OPEC increasingly exceeded its quota over this time period, the quota (21.7 million barrels per day) was set so low that even exceeding this ceiling by 2 million barrels per day was not enough to keep crude oil prices from rising. Then, when a general strike dramatically reduced Venezuelan oil production beginning in early December 2002, global crude oil supplies dipped further, and the United States -- Venezuela's top crude oil customer -- felt this impact more than any other country. The spot price of WTI rose from around \$27 per barrel prior to the Venezuelan strike to over \$30 per barrel by mid-December 2002, and stayed above this level until recently. Additionally, worries about Iraq also helped to keep crude oil prices high. In summary, OPEC production levels in 2002, the Venezuelan strikes, and worries over Iraq all helped pushed crude oil and product prices higher.

Besides crude oil, product markets have tightened since mid-January 2003. Following the Venezuelan strikes, U.S. refiners were able to maintain their inputs into refineries by drawing upon their limited crude oil inventories. However, by mid-January, with U.S. crude oil inventories approaching the Lower Operational Inventory level of 270 million barrels, refiners cut back inputs significantly, beginning with the week ending January 17. As a result, with less going into refineries, output was reduced as well. Refinery production of gasoline, diesel fuel, heating fuel, and other refined petroleum products all declined beginning in the second half of January, just as demand was increasing due, in part, to cold weather in the Northeast. With refinery production continuing at relatively low rates through today and demand for petroleum products still relatively high, product inventories have been drawn down to meet the product demand, with many products now below their normal range for this time of year. Thus, product markets have also tightened, which has contributed to rising prices across many refined petroleum products.

Of course, the big question is, "What will prices do in the near future?" As always, that's a difficult question to answer. More crude oil supply appears necessary in order to produce more refined products, and also to increase crude oil inventories. Although Venezuelan production started to increase by late February and Saudi Arabia, as well as other OPEC countries, reportedly increased production in January and February, the United States has yet to see a lot of this increased oil production. As a result, crude oil inventories have been hovering just above 270 million barrels, a level below which flexibility in the crude oil system may be constrained enough to increase the likelihood of regional shortfalls. With Iraqi oil exports now disrupted, additional crude supplies will be needed just to maintain the status quo. Where product prices will head in the next several weeks, particularly for gasoline and diesel fuel, will largely depend on the amount of crude oil that is in the U.S. refining system.

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## Definitions

### Petroleum

**WTI** – West Texas Intermediate (for the purposes of this table, prices provided are near month futures price) Cushing OK.

**Bbl** – Barrel (42 gallons).

**C's** – cents.

### Natural Gas

**Henry Hub** – A pipeline hub on the Louisiana Gulf coast. It is the delivery point for the natural gas futures contract on the New York Mercantile Exchange (NYMEX).

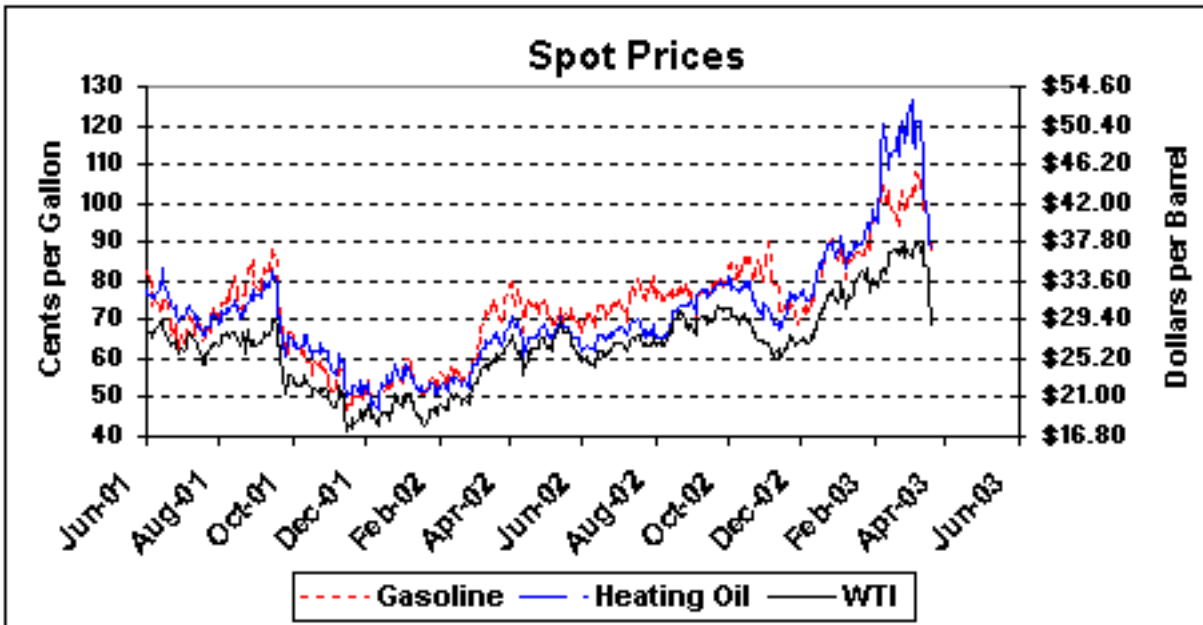
### Electricity

**COB** – average price of electricity traded at the California-Oregon and Nevada-Oregon border.

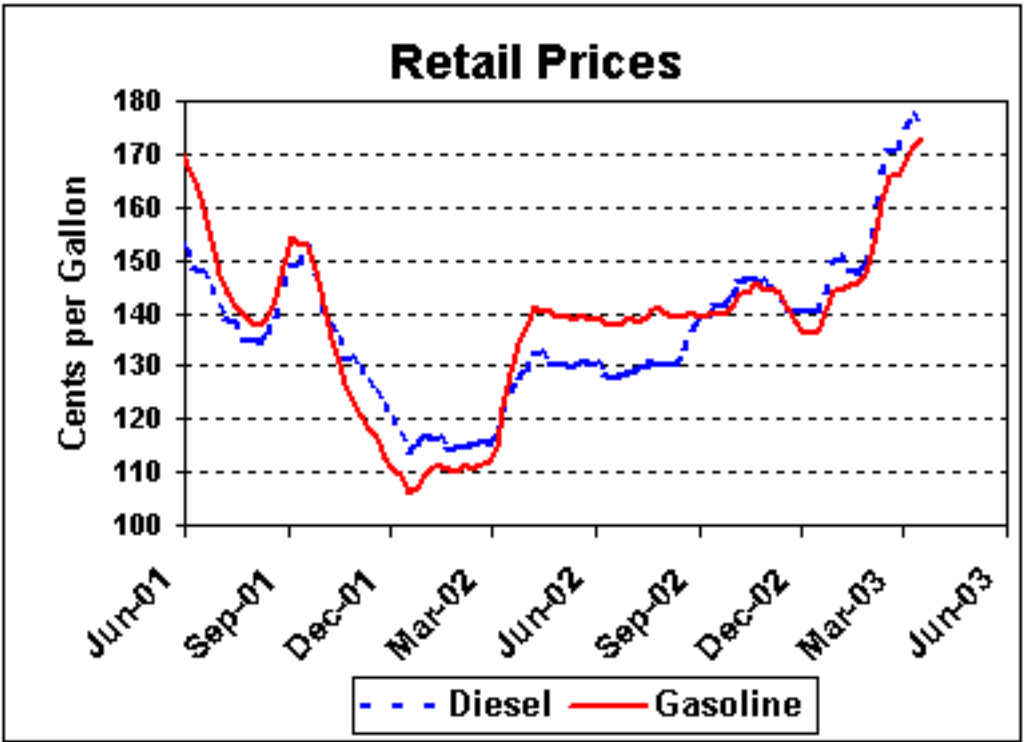
**Palo Verde** - average price of electricity traded at Palo Verde and West Wing Arizona.

**Average** - average price of electricity traded at all locations.



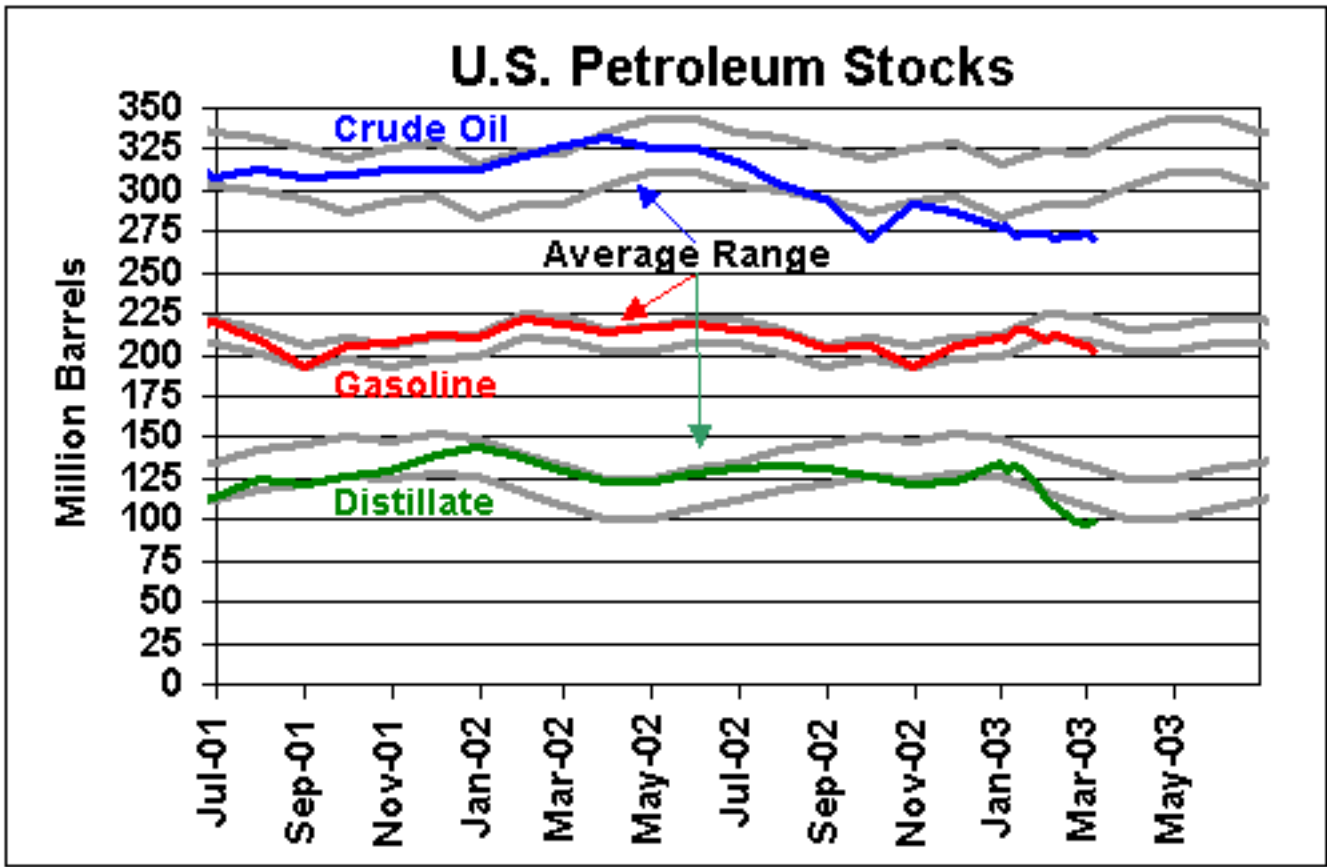


Source: Closing quote as reported by Reuters News Service



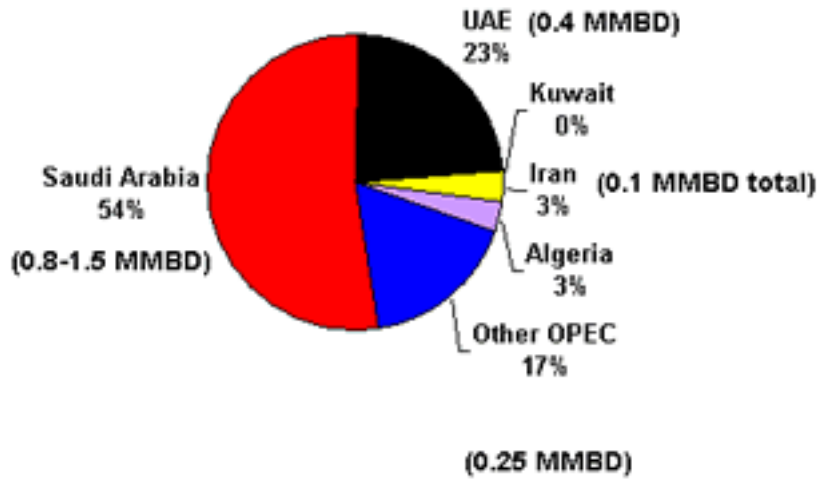
Source: Energy Information Administration (EIA)





Source: Energy Information Administration, Weekly Petroleum Status Report, Petroleum Supply Monthly.

### OPEC Spare Oil Production Capacity, 3/1/03



Total=1.5-2.0 Million barrels per day